WHAT IS CLAIMED IS:

1. An interconnection structure, comprising:

a first conductive layer formed on a substrate and composed of a copper layer;

an insulating layer formed on said first conductive layer and having a hole reaching said first conductive layer;

a second conductive layer formed within said insulating layer and composed of a copper layer electrically connected to said first conductive layer through said hole; and

a barrier metal layer formed between said second conductive layer and said hole, and said insulating layer; wherein

said barrier metal layer has an opening in a bottom portion of said hole, and said second conductive layer comes in direct contact with said first conductive layer through said opening.

2. An interconnection structure, comprising:

a first interconnection portion formed on a substrate;

a second interconnection portion formed on said substrate and having a line width larger than that of said first interconnection portion;

an insulating layer formed on said first and second interconnection portions and having a hole reaching said second interconnection portion; and

a conductive layer electrically connected to said second interconnection portion through said hole and formed within said insulating layer; wherein

said first interconnection portion is composed of a copper layer formed by plating, and

said second interconnection portion has a two-layered structure of a copper layer and a metal layer positioned at least in a region directly under said hole.

3. The interconnection structure according to claim 2, wherein

said metal layer is a copper layer formed by sputtering.

4. The interconnection structure according to claim 2, wherein said metal layer is an aluminum alloy layer.

5. An interconnection structure, comprising:

a first conductive layer formed on a substrate and composed of a copper layer;

an insulating layer formed on said first conductive layer and having a first hole and a second hole reaching said first conductive layer; and

a second conductive layer for electrical connection to another element, electrically connected to said first conductive layer through said first hole and formed within said insulating layer; wherein

said second hole is used as a dummy hole which does not electrically connect said first conductive layer to another element.

6. The interconnection structure according to claim 5, further comprising a dummy interconnection layer which is electrically connected to said first conductive layer through said second hole and does not electrically connect said first conductive layer to another element.

7. The interconnection structure according to claim 5, further comprising a third conductive layer filling said second hole, wherein

said third conductive layer is not electrically connected to other interconnection layer other than said first conductive layer.

8. The interconnection structure according to claim 5, wherein

said first conductive layer has a first interconnection portion with a large line width, and said second conductive layer has a second interconnection portion with a small line width, and

said first interconnection portion with a large line width is connected to said second interconnection portion with a small line width through said hole.

9. The interconnection structure according to claim 5, wherein

said first conductive layer has a first interconnection portion with a large line width, and a second interconnection portion with a small line width,

said second conductive layer has a third interconnection portion with a small line width, and

said second interconnection portion with a small line width is connected to said third interconnection portion with a small line width through said hole.

10. The interconnection structure according to claim 9, wherein

said second hole used as said dummy hole is formed so as to reach said first interconnection portion with a large line width.

11. The interconnection structure according to claim 9, wherein

said second hole used as said dummy hole is formed so as to reach said second interconnection portion with a small line width.